

## Claims

1. A tooling system which comprises a plurality of elements arranged in an array, the elements of the array being movable between a closed position in which the elements contact one another and are secured in position, and an open position in which the elements of the array are spaced  
5 apart and are capable of vertical movement relative to one another, characterised in that the tooling system further comprises bolster means provided to hold the elements of the array securely in the closed position.
2. A tooling system according to claim 1 characterised in that the bolster means has an element contacting face which is adapted selectively to apply localised pressure to one or more  
10 elements of the array.
3. A tooling system according to claim 1 or claim 2 characterised in that the elements of the array are substantially polygonal in cross section.
4. A tooling system according to claim 3 characterised in that the elements of the array are substantially triangular, rectangular or pentagonal in cross-section.
- 15 5. A tooling system according to claim 3 or claim 4 characterised in that the elements of the array are arranged so that, in the closed position of the array, the major axes of adjacent elements are aligned and their vertices touch one another, so that the elements of the array tessellate.
6. A tooling system according to any of claims 1 to 5 characterised in that the array is substantially rectangular in plan view and bolster means are provided on at least two adjacent sides  
20 of the rectangular array.
7. A tooling system according to claim 6 characterised in that bolster means are provided on all four sides of the rectangular array.

8. A tooling system according to claim 7 characterised in that the outer edges of the rectangular array are serrated and the bolster means has a correspondingly serrated face.

9. A tooling system according to claim 8 characterised in that the face of the bolster means contacting the array is formed from a plurality of teeth, at least some of which teeth are adjustable  
5 in order to apply localised pressure selectively to one or more elements of the array, in line with the sides of the elements.

10. A tooling system according to claim 9 characterised in that the teeth are also individually adjustable in height relative to one another.

11. A tooling system according to any of claims 1 to 10 characterised in that the bolster means  
10 comprise two sets of bolsters, the first of which is used during machining of the elements of the tooling system and the second of which is used when the elements of the array have been machined and the system is being used as a mould.

12. A tooling system according to any of claims 1 to 10 characterised in that at least one of the bolster means is formed of two or more separate component sections, so that one or more  
15 component sections may be removed to allow opening and adjustment of a part of the array, while maintaining the remainder of the array secured in the closed position.

13. A tooling system according to any of claims 1 to 12 characterised in that the bolster means are modular in design, so that individual bolster sides interlock with one another to form larger units.

14. A tooling system according to any of claims 1 to 13 characterised in that it further  
20 comprises vibrating means, so that the bolster sides can be vibrated to assist in bedding down the elements of the array.

15. A tooling system according to any of claims 1 to 14 characterised in that it further comprises sensors to detect and measure the forces applied to the elements of the array and /or to detect any movement.

16. A tooling system according to any of claims 1 to 15 characterised in that it further  
5 comprises means for securing the bolster means in position around the array of elements.

17. A tooling system according to any of claims 7 to 16 characterised in that the bolster means comprises four identical bolster components each of which is mounted on a cross rail of the array and guided by a guide rail with which it is in sliding engagement.

18. A tooling system according to claim 17 characterised in that the bolster means is  
10 substantially circular or substantially rectangular.

19. A tooling system according to any of claims 2 to 18 characterised in that the faces of the bolster means which contact the elements of the array are provided with contact pads.